BRUHAT BANGALORE MAHANAGARA PALIKE

Name of the Work : Comprehensive Development for Roads and Drains In Ward No. 7 And 8 Under CMC & TMC Grants, Kodigehalli Sub-Division, Yelahanka Zone, Byatarayanapura Division.

BYATARAYANAPURA DIVISION

3rd PART BILL

TEST REPORTS

TEJUS CONSULTANTS
CONSULTING ENGINEERS AND DESIGNERS
No.58 MIG, 6th Cross, 3rd Main
1st Stage, Basaveshwaranagar
Bangalore-560079
☎ 080 - 23287532
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TEJUS
CONSULTANTS

No. TC / BBMP / RI / BYT-PMC / 251 / 17 – 18

Date:19.04.2018

To
The Executive Engineer,
Bruhat Bangalore Mahanagara Palike,
Byatarayanapura Division,
No. 2152/20, Defence Colony,
Sahakara Nagar, Bangalore – 92

Dear Sir

Sub: **Third and part bill for the work of Name of Work (as per sanctioned estimate): Comprehensive Development for Roads and Drains In Ward No. 7 And 8 Under CMC & TMC Grants, Kodigehalli Sub-Division, Yelahanka Zone, Byatarayanapura Division**

In reference to the above subject, this is to bring to your kind notice that we have scrutinized the **Third and Part bill** submitted by M/s.Ram and Company Sri.C.R Girish No12,Patel Pillegowda layout,Ramchandrapura,Bangalore-560013, towards the above said work and arrived at an amount of **Rs. 13267570.08/-(Rupees One Crore Thirty Two Lakh Sixty Seven Thousand Five Hundred and Seventy Paise Eight Only**). The work has been completed satisfactorily

This is for your kind information.

Thank you and assuring you the best of our Services at all the times

For Tejus Consultants
(Nischal M)

TEJUS CONSULTANTS

TEJUS
CONSULTANTS

PRECAST SLAB (CORE) TEST REPORT

Client	:	Bruhat Bangalore Mahanagara Palike
Contractor	:	M/S Ram and Company, Engineers & Contractors.
Name of Work	:	Improvments to Roads and Drains at Bhadrappa Layout, Amco Layout and Surrounding Areas in Ward No 08 Kodigehalli, Kodigehalli Sub Division.
No.of Sample Tested	:	3
Date of Testing	:	10/02/18
Techinical Reference	:	IS:516-1959 (Reaffirmed 1999), SP-24:1983.
Grade of Concrete	:	M_{20} . 100mm thick

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	90.00	0.455	2574.77	1.80	0.960	38.56	19.64	21.21	20.36	25.45
2	50.00	90.00	0.448	2535.16	1.80	0.960	38.42	19.57	21.13	20.29	25.36
3	50.00	90.00	0.444	2512.53	1.80	0.960	38.25	19.48	21.04	20.20	25.25

Note:

1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS
Consultant's Representative

N.08

Assistant Executive Engineer.
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P..
Bangalore.

M/s. RAM & COMPANY

Name of Work	:	Improvments to Roads and Drains at Bhadrappa Layout, Amco Layout and Surrounding Areas in Ward No 08 Kodigehalli, Kodigehalli Sub Division.
Client	:	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	:	M/s Tejus Consultants
Contractor	:	M/S Ram and Company, Engineers & Contractors.
Date of Testing	:	27/03/18
Type of Mix	:	WMM
Sample I/D	:	WMM 2

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	At plant	Date of Sampling:	27/03/18
		Date of testing:	27/03/18
Type of material & Purpose:	WMM	Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	312	315	3.15	96.85	95-100
22.4	2564	2880	28.80	71.20	60-80
11.2	1900	4780	47.80	52.20	40-60
4.75	1348.0	6128	61.28	38.72	25-40
2.36	1158.0	7286	72.86	27.14	15-30
0.6	1258.0	8544	85.44	14.56	8.0-22.0
0.075	950.0	9494	94.94	5.06	0-8
Pan	506.0				
Total	10000.0				

M/s RAM & COMPANY

Consultant's Representative

TEJUS CONSULTANTS

Assistant Executive Engineer.
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P..
Bangalore.

Project	Improvments to Roads and Drains at Bhadrappa Layout, Amco Layout and Surrounding Areas in Ward No 08 Kodigehalli, Kodigehalli Sub Division.
Client	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	M/s Tejus Consultants
Contractor	M/S Ram and Company, Engineers & Contractors.

AGGREGATE IMPACT VALUE
(IS: 2386 Part - 4)

Proposed Use	WMM	**Date of Sampling**	**28/03/18**
Sample Location	**At plant**	**Date of Testing**	**28/03/18**

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	385.50	368.00	384.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	300.00	283.50	295.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	85.50	84.50	89.00	
4	Aggregate Impact Value (%)	(Wc/Wa)* 100	22.18	22.96	23.18	
5	Average Aggregate impact value	(%)	22.77			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

Consultant's Representative

M/s. RAM & COMPANY

TEJUS CONSULTANTS

W.08

Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS
CONSULTANTS

Project	Improvments to Roads and Drains at Bhadrappa Layout, Amco Layout and Surrounding Areas in Ward No 08 Kodigehalli, Kodigehalli Sub Division.
Client	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	M/s Tejus Consultants
Contractor	M/S Ram and Company, Engineers & Contractors.

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material	WMM	**Proposed Use**	**WMM**
Sample Location	At plant	**Date of Sampling**	**28/03/18**
		Date of Testing	**28/03/18**

Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	862	62	802	88
16.0	12.5	1111	118	995	120
12.5	10.0	758	87	672	52
10.0	6.3	522	76	450	45
Total		**3253**	**343**	**2919**	**305**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.54
Elongation Index(%):	10.45
Combined FI+EL (%)	20.99

M/S. RAM & COMPANY

Consultant's Representative

TEJUS CONSULTANTS

4.08

Assistant Executive Engineer.
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore

TEJUS
CONSULTANTS

Project	Improvments to Roads and Drains at Bhadrappa Layout, Amco Layout and Surrounding Areas in Ward No 08 Kodigehalli, Kodigehalli Sub Division.
Client	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	M/s Tejus Consultants
Contractor	M/S Ram and Company, Engineers & Contractors.

Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)

	Date:	**31/03/18**
Layer no. or level	WMM I layer	
Depth of hole	250mm	
Field density:	1	2
Wt. of wet material from hole (Ww) gms.	6234	6122
Wt. of sand+cylinder before pouring (w1) gms.	14000	14000
Wt. of sand+cylinder after pouring (w2) gms.	9713	9745
Wt. of sand in cone (w3) gms.	835	842
Wt. of sand in hole (w4)=(w1-w2-w3) gms.	3452	3413
Bulk density of sand (γs)gm/cc	1.31	1.31
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.37	2.35
Moisture meter reading(moisture content)	12.10	12.10
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.11	2.10
MDD	2.14	2.13
OMC	13.50%	13.50%
% compaction obtained	98.62	98.41
% compaction required	98%	98%

M/s. RAM & COMPANY

Consultant's Representative

TEJUS CONSULTANTS

Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

Name of Work	:	Improvments to Roads and Drains at Bhadrappa Layout, Amco Layout and Surrounding Areas in Ward No 08 Kodigehalli, Kodigehalli Sub Division.
Client	:	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	:	M/s Tejus Consultants
Contractor	:	M/S Ram and Company, Engineers & Contractors.
Date of Testing	:	2/4/2018
Type of Mix	:	DBM
Sample I/D	:	DBM-1

GRADATION FOR DBM

(As per MORT&H 500-10,Grading-2)

Sample Location:	At plant	**Date of Sampling:**	2/4/2018
		Date of testing:	2/4/2018
Type of material & Purpose:	DBM	**Oven Dry Wt.(gms):**	1500.0

IS Sieve size in mm	Weight retained	Cummulative weight retained	Cummulative % of retained	Cummulative % of passing	Specification limits
37.50	0	0	0.00	100.00	100.00
26.50	82	82	5.47	94.53	90-100
19.00	152	234	15.60	84.40	71-95
13.20	252	486	32.40	67.60	56-80
4.750	345	831	55.40	44.60	38-54
2.360	185	1016	67.73	32.27	28-42
0.300	210	1226	81.73	18.27	7-21
0.075	180	1406	93.73	6.27	2-8
Pan	94				
Total	1500.0				

M/s. RAM & COMPANY

Consultant's Representative

TEJUS CONSULTANTS

Assistant Executive Engineer.
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

BRUHAT BANGALORE MAHANAGARA PALIKE

TEST REPORTS

Name of the Work : Improvments to Roads and Drains at Shakara Nagar, B,C,D Blocks, CQAL Layout and Surrounding Areas in Ward No 08 Kodigehalli, Kodigehalli Sub Division.

BYATARAYANAPURA DIVISION

3rd PART BILL

TEJUS CONSULTANTS
CONSULTING ENGINEERS AND DESIGNERS
No.58 MIG, 6th Cross, 3rd Main
1st Stage, Basaveshwaranagar
Bangalore-560079
☎ 080 - 23287532
email: tejusconsultants@gmail.com

Name of Work	:	Improvments to Roads and Drains at Shakara Nagar, B,C,D Blocks, CQAL Layout and Surrounding Areas in Ward No 08 Kodigehalli, Kodigehalli Sub Division.
Client	:	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	:	M/s Tejus Consultants
Contractor	:	M/S Ram and Company, Engineers & Contractors.
Date of Testing	:	2/4/2018
Type of Mix	:	WMM
Sample I/D	:	WMM 2

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	At plant		**Date of Sampling:**	2/4/2018	
Type of material & Purpose:	WMM		**Date of testing:**	2/4/2018	
Oven Dry Wt.(gms):	10000.0				
IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	315	315	3.15	96.85	95-100
22.4	2564	2879	28.79	71.21	60-80
11.2	1850	4729	47.29	52.71	40-60
4.75	1568.0	6297	62.97	37.03	25-40
2.36	1268.0	7565	75.65	24.35	15-30
0.6	1195.0	8760	87.60	12.40	8.0-22.0
0.075	940.0	9700	97.00	3.00	0-8
Pan	300.0				
Total	10000.0				

M/s. RAM & COMPANY

W.08

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

Consultant's Representative

TEJUS CONSULTANTS

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CONSULTANTS

Project	Improvments to Roads and Drains at Shakara Nagar, B,C,D Blocks, CQAL Layout and Surrounding Areas in Ward No 08 Kodigehalli, Kodigehalli Sub Division.
Client	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	M/s Tejus Consultants
Contractor	M/S Ram and Company, Engineers & Contractors.

AGGREGATE IMPACT VALUE
(IS: 2386 Part - 4)

Proposed Use	WMM	**Date of Sampling**	**3/4/2018**
Sample Locati	**At plant**	**Date of Testing**	**3/4/2018**

Sl. No.	**Description**		**Test No. 1**	**Test No. 2**	**Test No. 3**	**Spec Limit (%)**
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm	(Wa)	390.00	374.00	378.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	299.00	291.00	290.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	91.00	83.00	88.00	
4	Aggregate Impact Value (%)	(Wc/Wa)* 100	23.33	22.19	23.28	
5	Average Aggregate impact value	(%)	22.94			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

Consultant's Representative

TEJUS CONSULTANTS

4-08

Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

M/s. RAM & COMPANY

TEJUS
CONSULTANTS

Project	Improvments to Roads and Drains at Shakara Nagar, B,C,D Blocks, CQAL Layout and Surrounding Areas in Ward No 08 Kodigehalli, Kodigehalli Sub Division.
Client	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	M/s Tejus Consultants
Contractor	M/S Ram and Company, Engineers & Contractors.

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material	WMM	**Proposed Use**	**WMM**
Sample Location	At plant	**Date of Sampling**	**3/4/2018**
		Date of Testing	**3/4/2018**

Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	890	80	810	80
16.0	12.5	1352	150	1202	130
12.5	10.0	765	85	680	75
10.0	6.3	600	65	535	49
Total		**3607**	**380**	**3227**	**334**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%)	10.54	
Elongation Index(%)	10.35	
Combined FI+EL (%)	20.89	

Consultant's Representative

TEJUS CONSULTANTS

Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

M/s. RAM & COMPANY

TEJUS
CONSULTANTS

Project	Improvments to Roads and Drains at Shakara Nagar, B,C,D Blocks, CQAL Layout and Surrounding Areas in Ward No 08 Kodigehalli, Kodigehalli Sub Division.	
Client	BRUHAT BANGALORE MAHANAGARA PALIKE	
Consultant	M/s Tejus Consultants	
Contractor	M/S Ram and Company, Engineers & Contractors.	
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)		
	Date:	**6/4/2018**
Layer no. or level	WMM I layer	
Depth of hole	250mm	
Field density:	1	2
Wt. of wet material from hole (Ww) gms.	6240	6250
Wt. of sand+cylinder before pouring (w1) gms.	14000	14000
Wt. of sand+cylinder after pouring (w2) gms.	9720	9700
Wt. of sand in cone (w3) gms.	810	810
Wt. of sand in hole (w4)=(w1-w2-w3) gms.	3470	3490
Bulk density of sand (γs)gm/cc	1.31	1.31
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.36	2.35
Moisture meter reading(moisture content)	12.10	12.10
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.10	2.09
MDD	2.14	2.13
OMC	13.50%	13.50%
% compaction obtained	98.20	98.25
% compaction required	98%	98%

M/s. RAM & COMPANY

Consultant's Representative

TEJUS CONSULTANTS

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

Name of Work	:	Improvments to Roads and Drains at Shakara Nagar, B,C,D Blocks, CQAL Layout and Surrounding Areas in Ward No 08 Kodigehalli, Kodigehalli Sub Division.
Client	:	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	:	M/s Tejus Consultants
Contractor	:	M/S Ram and Company, Engineers & Contractors.
Date of Testing	:	6/4/2018
Type of Mix	:	DBM
Sample I/D	:	DBM-1

GRADATION FOR DBM
(As per MORT&H 500-10,Grading-2)

Sample Location:	At plant	**Date of Sampling:**	6/4/2018
		Date of testing:	6/4/2018
Type of material & Purpose:	DBM	**Oven Dry Wt.(gms):**	1500.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
37.50	0	0	0.00	100.00	100.00
26.50	78	78	5.20	94.80	90-100
19.00	128	206	13.73	86.27	71-95
13.20	254	460	30.67	69.33	56-80
4.750	355	815	54.33	45.67	38-54
2.360	145	960	64.00	36.00	28-42
0.300	320	1280	85.33	14.67	7-21
0.075	150	1430	95.33	4.67	2-8
Pan	70				
Total	1500.0				

M/s. RAM & COMPANY

Assistant Executive Engineer.
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

Consultant's Representative

TEJUS CONSULTANTS

TEJUS
CONSULTANTS

Project	Improvments to Roads and Drains at Shakara Nagar, B,C,D Blocks, CQAL Layout and Surrounding Areas in Ward No 08 Kodigehalli, Kodigehalli Sub Division.
Client	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	M/s Tejus Consultants
Contractor	M/S Ram and Company, Engineers & Contractors.

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	DBM	**Date of Sampling**	**7/4/2018**
Sample Location	At plant	**Date of Testing**	**7/4/2018**

Sl. No.	**Description**		**Test No.**			**Spec Limit (%)**
			1	**2**	**3**	
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	395.00	385.00	347.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	310.00	301.00	268.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	85.00	84.00	79.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	21.52	21.82	22.77	
5	Average Aggregate impact value	(%)	22.03			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

Consultant's Representative

TEJUS CONSULTANTS

Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.
Bangalore.

M/s. RAM & COMPANY

TEJUS
CONSULTANTS

Project	Improvments to Roads and Drains at Shakara Nagar, B,C,D Blocks, CQAL Layout and Surrounding Areas in Ward No 08 Kodigehalli, Kodigehalli Sub Division.
Client	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	M/s Tejus Consultants
Contractor	M/S Ram and Company, Engineers & Contractors

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material	DBM	**Proposed Use**	**DBM**
Sample Location	At plant	**Date of Sampling**	7/4/2018
		Date of Testing	7/4/2018

Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	7895	730	7165	430
31.5	25.0	4295	172	4123	210
25.0	20.0	2555	285	2270	270
20.0	16.0	1265	268	997	298
16.0	12.5	530	135	395	180
12.5	10.0	270	80	190	120
10.0	6.3	124	70	54	70
Total		**16934**	**1740**	**15194**	**1578**

Results

Flakiness Index(%):	10.28
Elongation Index(%):	10.39
Combined FI+EL (%)	20.66

M/S. RAM & COMPANY

Consultant's Representative

TEJUS CONSULTANTS

Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS
CONSULTANTS

Name of Work	:	Improvments to Roads and Drains at Shakara Nagar, B,C,D Blocks, CQAL Layout and Surrounding Areas in Ward No 08 Kodigehalli, Kodigehalli Sub Division.
Client	:	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	:	M/s Tejus Consultants
Contractor	:	M/S Ram and Company, Engineers & Contractors
Date of Testing	:	10/4/2018
Type of Mix	:	BC
Sample I/D	:	BC1

GRADATION FOR BC
(As per MORT&H 500-18,Grading-2)

Sample Location:	At plant	**Date of Sampling:**	10/4/2018
		Date of testing:	10/4/2018
Type of material & Purpose:	BC	**Oven Dry Wt.(gms):**	1200.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	95	95.0	7.92	92.08	79 - 100
9.50	125	220.0	18.33	81.67	71 - 95
4.75	210	430.0	35.83	64.17	53 - 71
2.360	142	572.0	47.67	52.33	42 - 58
1.180	105	677.0	56.42	43.58	34 - 48
0.600	90	767.0	63.92	36.08	26 - 38
0.300	116	883.0	73.58	26.42	18 - 28
0.150	124	1007.0	83.92	16.08	12 - 20
0.075	115	1122.0	93.50	6.50	4 - 10
Pan	78.0				
Total	1200.0				

M/s. RAM & COMPANY

TEJUS CONSULTANTS

Consultant's Representative

Assistant Executive Engineer
Kodigehalli Sub Division
Yelahanka Zone, B.B.M.P.
Bangalore.

BRUHAT BANGALORE MAHANAGARA PALIKE

TEST REPORTS

Name of the Work : Improvments to Roads and Drains at Kodigehalli villege, Tatanagar and Surrounding Areas in Ward No 08 Kodigehalli, Kodigehalli Sub Division

BYATARAYANAPURA DIVISION

3rd PART BILL

TEJUS CONSULTANTS
CONSULTING ENGINEERS AND DESIGNERS
No.58 MIG, 6th Cross, 3rd Main
1st Stage, Basaveshwaranagar
Bangalore-560079
☎ 080 - 23287532
email: tejusconsultants@gmail.com

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvments to Roads and Drains at Kodigehalli villege, Tatanagar and Surrounding Areas in Ward No 08 Kodigehalli, Kodigehalli Sub Division
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors.
Total Weight in gm:	3000

SIEVE ANALYSIS

Type of Material	40 mm down size			Proposed Use	Drain
Sample Location	at Site			Date of Sampling	20/01/18
				Date of Testing	20/01/18
IS Sieve Size	Weight Retained in gm	Cum. Weight Retained in gm	Cumulative Weight Retained in %	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA-2007) % of Passing For Graded Aggregate of Nominal Size
80.00mm	0	0	0.00	100.00	100
63.00mm	0	0	0.00	100.00	-
40.00mm	90	90	3.00	97.00	95-100
20.00mm	1526	1616	53.87	46.13	30-70
10.00mm	795	2411	80.37	19.63	10-35
4.75mm	480	2891	96.37	3.63	0-5
Pan	109	3000	100.00	0.00	

Remarks : Satisfactory / Not Satisfactory

Consultant's Representative

TEJUS CONSULTANTS

Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

M/s. RAM & COMPANY

TEJUS
CONSULTANTS

TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Improvments to Roads and Drains at Kodigehalli villege, Tatanagar and Surrounding Areas in Ward No 08 Kodigehalli, Kodigehalli Sub Division
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors.

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material	Sand/M sand	**Proposed Use**	Drain
Location/Source	At Plant/site	**Date of Sampling**	20/01/18
Period of Soaking	24 hours	**Date of Testing**	20/01/18

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	Average
A	Weight of sturated surface dry sample gm.	670	648	668	
B	Weight of oven - dry sample gm.	660	638	658	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1698	1685	1695	
E	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.672	2.681	2.653	**2.669**
G	Absorption (%) $\frac{(A-B)*100}{B}$	1.515	1.567	1.520	**1.534**

Consultant's Representative

M/s. TEJUS CONSULTANTS

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

M/s. RAM & COMPANY

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvments to Roads and Drains at Kodigehalli villege, Tatanagar and Surrounding Areas in Ward No 08 Kodigehalli, Kodigehalli Sub Division
Consultants	Tejus Consultants, Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors.

SIEVE ANALYSIS

Total Weight:	**3000** gms				
Type of Material	**Fine aggregate (River Sand/M sand)**		**Proposed Use**	Drain	
Sample Location	At Plant/site		**Date of Sampling**	20/01/18	
			Date of Testing	20/01/18	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing (Zone-II)**
10.00 mm	0	0	0	100.00	**100**
4.75 mm	265	265	8.83	91.17	**90 - 100**
2.36 mm	280	545	18.17	81.83	**75 - 100**
1.18 mm	520	1065	35.50	64.50	**55 - 90**
0.600 mm	560	1625	54.17	45.83	**35 -59**
0.300 mm	615	2240	74.67	25.33	**8-30**
0.150 mm	520	2760	92.00	8.00	**0 - 10**
Pan	240	3000			-

Remarks : Satisfactory / Not Satisfactory

Consultant's Representative

TEJUS CONSULTANTS

M/S. RAM & COMPANY

Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

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CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike	
Project	Improvments to Roads and Drains at Kodigehalli villege, Tatanagar and Surrounding Areas in Ward No 08 Kodigehalli, Kodigehalli Sub Division	
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore	
Contractor	M/s Karthik Enterprises	
Total Weight:	10000	gms

SIEVE ANALYSIS

Type of Material	**12.5 mm down size**		**Proposed Use**		
Sample Location	Plant/site		**Date of Sampling**	20/1/18	
			Date of Testing	20/1/18	
IS Sieve Size (in mm)	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing**
20.0	0	0	0	100	100
12.5	572	572	5.72	94.28	90-100
10.0	2269	2841	28.41	71.59	40-85
4.75	6478	9319	93.19	6.81	0-10
Pan	681	10000			

Remarks : Satisfactory / Not Satisfactory

M/s. RAM & COMPANY

Consultant's Representative

TEJUS CONSULTANTS

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

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CONSULTANTS

Test Report on Cement

Project	Improvments to Roads and Drains at Kodigehalli villege, Tatanagar and Surrounding Areas in Ward No 08 Kodigehalli, Kodigehalli Sub Division
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Sample ID	Cement
Date of Sample Tested	20/01/18
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	36 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	354 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	5 mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	28.00%	

TEJUS CONSULTANTS

Consultant Representative

Assistant Executive Engineer.
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

M/S RAM & COMPANY

TEJUS
CONSULTANTS

Test Report on Cement

Project	Improvments to Roads and Drains at Kodigehalli villege, Tatanagar and Surrounding Areas in Ward No 08 Kodigehalli, Kodigehalli Sub Division
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Sample ID	Cement
Date of Sample Tested	20/01/18
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	39 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	372 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	5 mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	28.00%	

TEJUS CONSULTANTS

Consultant Representative

M/s. RAM & COMPANY

Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS
CONSULTANTS

Test Report on Cement

Project	Improvments to Roads and Drains at Kodigehalli villege, Tatanagar and Surrounding Areas in Ward No 08 Kodigehalli, Kodigehalli Sub Division
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Sample ID	Cement
Date of Sample Tested	22/01/18
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	37 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	364 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	4 mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	28.00%	

TEJUS CONSULTANTS

Consultant's Representative

22.01.18

Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

M/S. RAM & COMPANY